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Hazardous material transportation policy and the threat of terrorist attack

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HAZARDOUS MATERIAL TRANSPORTATION POLICY AND THE THREAT OF TERRORIST ATTACK

by

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June 2002

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Overall policies on transportation of hazardous material do provide adequate security for naval bases but some inefficiency do exist. There is a lack of designated hazardous material transportation routes on base; hazardous material instructions lacks specifics on transporting hazardous material before it becomes waste; and gate security lacks procedures or systems for to check incoming carriers licenses for authorization to transport hazardous material.

Recommendations include the establishment of hazardous material routes; incorporate specifics on transporting incoming hazardous material; establish communications with law enforcement systems to check carrier's licenses for authorization to transport hazardous material; and base security plans should incorporate exercises and training plans pertaining to possible terrorists attacks with hazardous material.

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HAZARDOUS MATERIAL TRANSPORTATION POLICY AND THE THREAT OF TERRORIST ATTACK

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Submitted in partial fulfillment of the
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Recommendations include the establishment of hazardous material routes; incorporate specifics on transporting incoming hazardous material; establish communications with law enforcement systems to check carrier’s licenses for authorization to transport hazardous material; and base security plans should incorporate exercises and training plans pertaining to possible terrorists attacks with hazardous material.

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I. INTRODUCTION

A. BACKGROUND

Hazardous materials are essential to the economy of the United Sates and the well being of its people. Hazardous materials fuel cars and trucks, and heat and cool homes and offices. They also are used for farming and medical applications and in manufacturing, mining, and other industrial processes. Millions of tons of explosive, poisonous, corrosive, flammable, and radioactive materials are transported every day. Planes, trains, trucks, and sea going vessels move hazardous materials in quantities ranging from several ounces to many thousands of gallons. The vast majority of hazardous material shipments arrive safely at their destinations. Most incidents that occur involve small releases of material and present no serious threat to life or property.

However, in the wrong hands, hazardous materials can pose a significant security threat. Hazardous materials in transport are particularly vulnerable to sabotage or misuse, because they are frequently transported in substantial quantities and in proximity to large population centers. These materials are often clearly identified to ensure safe and appropriate handling during transport and to facilitate effective emergency response in the event of an accidental release. However, despite the fact that Hazardous Material Regulations provide for a high degree of safety with respect to unintentional release during transport, these regulations do not specifically address security threats.

Since September 11, 2001, there has been great concern about terrorists' ability to fraudulently obtain licenses to haul hazardous material. Such a scenario would give terrorists the ability to seize control over trucks and railcars full of hazardous material and turn them into weapons of mass destruction. One major reason for this concern is according to The Federal Society for Law and Public Studies shortly after the terrorist attacks against the United States on September 11, 2001, twenty people were arrested for fraudulently obtaining license to haul hazardous material. Some members in the group arrested were suspected of having links to the terrorist that launched the attacks of September 11th. The license held gave them authorizations to haul hazardous material including dynamite, gases, and toxic and radioactive materials.[1]

Many Americans could not image an airplane becoming a weapon of mass destruction. However, tragedies such as September 11th proved that it could happen. These tragedies open the eyes of many leaders of the Department of Defense (DOD) and brought about concerns on how they handle transportation of hazardous onto their installations.

B. PROBLEM

Currently, many naval bases are outsourcing hazardous material operations (i.e., procurement of hazardous material from commercial sources for on base delivery). DOD has been undertaking many ways to save money on the operation support services for naval installations. The emphasis on outsourcing came from the Clinton's Administration's National Performance Review and the

[1] DOT Website.

ongoing Defense Reform Initiative, including outsourcing recommendations from two DOD study group.[2]

In 1995, the report of the Chairman of the Joint Chiefs of Staff recommended that all commercial activities in DOD be outsourced, and that all the new needs be channeled through the private sector.[3]

The problem for naval installations is through outsourcing their hazardous material requirements are being transported onto naval bases via commercial carriers with civilian drivers. These commercial carriers are vulnerable to possible terrorist hijacking. If a truck load of hazardous material for delivery to a on base hazardous material center was hijacked by a terrorist would it be detected in transit or by base security before it gets to its final destination for mass destruction? Do current hazardous material transportation polices provide adequate base security from terrorist attacks with these types of materials?

It is important to protect bases from possible terrorists attacks with hazardous material. The framework criteria for transportation of hazardous material must be constructed from manufacturers, suppliers, and compare to current DOD polices to ensure adequate security measures are in place to prevent or handle possible terrorist attacks.

C. PURPOSE AND SCOPE

We analyze the framework constructed from manufacturers, suppliers, and DOD transportation polices on

[2] GAO/NSIAD.

[3] GAO/NSIAD.

the movement of hazardous material to naval bases. Then evaluate the framework constructed against Naval Air Station LeMoore polices. The objective to analyze the framework constructed against current polices and evaluate whether these polices provide adequate base security from possible terrorist attacks with hazardous material.

We draw conclusions about the adequacy of current hazardous material transportation policy to provide adequate base security. We also make recommendations for improvements in the transportation of hazardous material policy.

D. METHODOLOGY

First, we construct framework criteria from manufacturers and suppliers polices on transportation of hazardous material. We imply framework criteria as meaning similarities among guidance provide by both organizations that should be followed when transporting hazardous material for delivery to naval installations.

Second, we evaluate Department of Defense policy on transportation of hazardous material against the framework contrasted from manufacturers and suppliers. Then, review similarities in framework and construct criteria for the transportation of hazardous material.

Third, we evaluate Naval Air Station LeMoore hazardous material management operations policies and base security polices on the transportation of hazardous material against the framework constructed.

Finally, we state our conclusions on whether polices in place provide adequate security from terrorist attacks. Then, we make recommendations for possible changes in

hazardous material transportation policies for naval installations.

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II. FRAMEWORK CRITERIA ON HAZARDOUS MATERIAL TRANSPORTATION

A. INTRODUCTION

Ransom House Unabridged dictionary defines framework as a skeletal structure designed to support something. In reference to the framework criteria of hazardous material transportation, we imply it as standard guidelines or policy followed by manufacturers, suppliers, and DOD when transporting hazardous material to its final destination. These polices will assist in the safe delivery of hazardous material to naval bases. In addition, assist in security measures while in transit from possible hijacking by terrorist groups trying to do harm to the United States.

To evaluate these policies we analyze policy from the manufacturer to the supplier; supplier to naval installation; naval base security gate to the hazardous material receiving center.

We look at the source of where hazardous material enters the transportation pipeline to construct a framework that is common among all involved in transporting these materials.

B. TRANSPORTING FROM MANUFACTURER TO SUPPLIER

In preventing possible terrorist attacks we must evaluate polices of were hazardous material starts in the process of transporting. Transportation of hazardous material has many requirements and restrictions for manufacturers. Manufacturers of hazardous material must follow the Federal Hazardous Material Transportation Laws

by Department of Transportation prior to any hazardous material being transported to a supplier.[4]

1. Training

Manufacturer's requires for their employees to have some training in the proper handling of hazardous material. This training is important for personnel to be aware of what they are handling and the precautions necessary to prevent any safety violation or possible environmental mishap.

2. Markings and Labeling

Manufacturers require all containers being prepared for shipping to their suppliers be properly sealed, labeled and correctly marked. The proper shipping name and identification number is marked on the outside of the container. In addition, all hazardous materials is accompanied with a Material Safety Data Sheet that provides detailed descriptions of the ingredients, side affects, precautions, flash points, and etc.

In addition, all technical names of hazardous material are marked in parentheses, in association with the proper shipping name, in accordance with the requirements and exceptions specified for display of technical descriptions on the shipping papers to prevent confusion.

3. Consignee or Consignor

Manufacturers require the consignee's or consignor's name and address. Each person transporting hazardous material shall mark that package with the name and address of the consignor or consignee. This will assist in tracking of any possible hijacked hazardous material in transit to the supplier.

[4] HMTA.

4. Shipping Papers

Manufacturers provide carriers with shipping documentation while in transit for identification and authorization to haul hazardous material. This documentation will be required if the carrier is stopped by law enforcement or for tolls while transporting these material.

5. Placards

Manufacturers ensure their carrier's vehicles have the proper placard displayed when in-transit for security measures. This will help prevent delay in delivering the material to its final destination.

6. Emergency Response Information

Manufacturers provide emergency response information to their carriers during transit. Emergency response information is defined as information that can be used in the mitigation of an incident involving hazardous materials. For example, the basic description and technical name of the hazardous material being transported, immediate hazards to health, and the initial methods for handling spills or leaks in the absence of fire.

C. SUPPLIER TO NAVAL INSTALLATION

The concern is how suppliers can ensure that hazardous materials are secure during storage and in transit. Suppliers of hazardous material adhere to transportation policies, as do manufacturers when supplying customers their products. All suppliers or private companies who procure commercial transportation services for delivery of their products are considered engaged in commerce and

required to comply with the 49 Code of Federal Regulations. Suppliers polices incorporate these regulations.[5]

1. Labels and Containers

Suppliers require all hazardous material be maintained in its original packaging or containers. All labels and markings from the manufacturer on the containers should still be intact and readable. This will easily help verify what is being transported to a customer.

2. Registration Certificate

Suppliers require all their carriers have a valid Registration Certificates authorizing them to transport hazardous material. The registration certificate includes a Department of Transportation registration number. The carrier displays the registration number on the vehicle transporting the hazardous material. The certificate will assist law enforcement personnel in determining whether a carrier is a legitimate transporter of hazardous materials.

3. Shipping Papers

Suppliers require shipping documentation. Shipping documentation must accompany the hazardous material being transported. The proper shipping name and identification number of the hazardous material being transported must be listed on all documentation. The shipping documentation will continue to assist in identifying the hazardous material during transit to its final destination.

4. Placards

Supplier’s vehicles display the proper hazardous material placard during transit. These placards help the public and law enforcements identify possible hazards during transit.

[5] DOT Website.

D. NAVAL BASE SECURITY GATE TO HAZARDOUS MATERIAL CENTER

When transporting hazardous material on naval installations, prevention of terrorist threats should begin at the entrance. Gate security requirements should be clear and strict.

1. Proper Decal and Identification

Many naval installations have civilian or military security personnel. In order for carriers of supplies to gain entrance on to naval installations a proper decal or identification are required. This information helps keep prevent unauthorized personnel from entering the facilities.

2. Vehicle Inspections

Security personnel are required to check all vehicles transporting hazardous material thoroughly. They used the shipping documentation to verify the contents in the truck or vehicle. In addition, inspected for any unusual characteristics or of possible explosives. They ensure the labels and markings of the hazardous material being transported are intact and clearly visible. This inspection will assist in preventing any material being transport that does not agree with the shipping documentation can be turned away.

3. Routes

Upon completion of security personnel inspection and approval granted, base security directs the carriers to the proper route for delivery of the hazardous material to its final destination.

E. ON-BASE HAZARDOUS MATERIAL RECEIVING CENTER

Most naval bases have centralized their hazardous material operations. These services are also offered to

ships assigned to the base as their homeport. Over the past years, these support services—as well as the hazardous material inventory—have grown immensely. However, recently many base hazardous material centers have adopt the initiative to reduce their inventory to the minimum required by its customer. This will help reduce the possible destruction a large amount of hazardous material inventory could cause if targeted by terrorist.

1. Shipping Papers

Hazardous material personnel are responsible for ensuring that all shipping documentation of the material received matches what was actually ordered. This will prevent the receipt of unwanted or unauthorized hazardous materials.

2. Location of Receiving Center

The hazardous material receiving center should not be located near explosives or base aircraft. If so, this brings great concern about potential mass destruction if a terrorist hijacks a truck loaded with hazardous chemicals and gains entrance on to base.

3. Emergency Procedures and Routes

Emergency procedures and routes for transporting hazardous material should be established and training conducted periodically for possible terrorist attacks. If not, there is a potential for a breakdown in communications that causes a loss of lives and destruction in case of an emergency threat.

4. Storage

Bases storage of hazardous material inventory is normally secure. Normally it is required to be stored in a safe environment that prohibits unauthorized personnel

entry. All labels and markings are clearly visible and hazardous material stored in their original container or shipping package. All non-compatible hazardous material is stored in a separate area to prevent an accidental mixture that could cause an explosion, fire, or some other chemical reaction.

F. CHAPTER SUMMARY

As a result of the terrorist attacks of September 11, 2001, as well as subsequent threats related to biological and other hazardous materials, we must undertake a broad review of the government's and industry's hazardous materials transportation safety and security programs and policies. This review should ensure that the framework criteria established for transportation of hazardous material from where it enters the transportation pipeline at the manufacturer to its final destination, are adequate to prevent possible terrorist attacks.

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III. DOD RULES AND REGULATIONS ON THE MOVEMENT OF HAZARDOUS MATERIAL

A. INTRODUCTION

The National defense strategy of the United States requires a national transportation system that is fully responsive and capable of meeting military personnel and material movement requirements of the Department of Defense (DoD) in peacetime, national emergencies and wartime. This strategy requires a proper mix among the capabilities of the various modes and methods of transportation, both military and commercial—a mix that matches defense requirements and security measures.[6]

The objective of the Hazardous Material Transportation Act (HMTA) of 1975, according to policy stated by Congress, is to improve regulatory and enforcement authority of the Secretary of Transportation to protect the Nation adequately against risks to life and property, which are inherent in the transportation of hazardous materials in commerce. The HMTA empowered the Secretary of Transportation to designate as hazardous material any particular quality or form of a material that may pose an unreasonable risk to health and safety or property.[7]

We evaluate the framework criteria that have been established by the Department of Defense of on the transportation of hazardous materials.

Department of Defense (DOD) obtains majority of its guidance from the Department of Transportation (DOT). When

[6] DOT Website.

[7] HMTA.

establishing policy and both departments evaluate the types of transportation security threats on transporting hazardous materials. According to both some of the types of threats from terrorist are endangerment of populations; disruption of the US economy by disrupting the transportation network; disruption of military shipments; and loss of confidence by the public in transportation systems. These are major concerns by both parties and establishing and monitoring strict guidance on transportation is very important.

Many regulations DOD incorporates in their guidance come from several sources. These include the Storage and Handling of HAZMAT (DLAM 4145.11), Defense Transportation Regulation (DoD 4500.9R), preparing HAZMAT for Military Air Shipments (AFJMAN 24-204), 40 CFR environmental (HAZWASTE), 29 CFR OSHA hazard communications standard, Emergency Response Guidebook, and the Defense Transportation Regulation.

OSHA law 29 CFR 1910.1200(g) requires procedures on hazardous material in the work place, as well as on containers of chemicals being shipped to other work places; preparation and distribution of material safety data sheets to employees and downstream employers; and development and implementation of employee training programs regarding hazardous of chemicals and protective measures. The Defense Transportation Regulation (DOD 4500.9R), chapter 204, contains policies, procedures, and responsibilities applicable to movement of hazardous material by all modes of commercial transportation and military surface transportation operated by military and DoD civilian

personnel. Theater CINCs may apply more stringent requirements. Policies, procedures, and responsibilities applicable to movement of hazardous materials by military air shipment are identified in AFJMAN 24-204.

There are abundant regulations on hazardous material that must be followed but we focus on the transportation requirements. DOD requirements begin with the training of all personnel who handle hazardous materials.

B. HANDLING CRITERIA

According to Federal Hazardous Material Transportation Law, DOD requirements when handling hazardous material include a minimum number of personnel; minimum levels of training and qualifications for personnel; the kind and frequency of inspections; equipment for detecting, warning of, and controlling risks posed by the hazardous material.[8]

These are initial requirements to increase personnel awareness levels when handling hazardous material.

C. TRAINING REQUIREMENTS

DOD regulation requires hazardous material employers provide hazardous material employees with training in the safe loading, unloading, handling, and storing of hazardous material, as well as in emergency preparedness for responding to an accident or incident involving the spillage or leakage of hazardous material.[9]

After completing the training, each hazardous material employer must certify, by proper documentation, that his or her employees have been trained and tested on appropriate responsibilities. For example, an employee maybe certified

[8] DOT Website.

[9] DOD Website.

in the general handling procedures, loading and unloading techniques and strategies to reduce probability of release or damage during transport. This helps protect the employer and employees from possible criminal penalties or fines in case of a mishap with hazardous material

D. LABELING REQUIREMENTS

DOD requires all hazardous being transported be labeled properly.[10] The label requires the proper shipping name and identification number. These labels are affix on the outside of the container or packaging of hazardous material being transported. Any previous labeled container or package requires relabeling. These labels assist's personnel on what type of material they are transporting or handling during transit.

E. MODES OF TRANSPORTING

Hazardous Material is transported by four modes of transportation: highway, rail, vessel, and air. Different agents regulate enforcement for each mode of transportation. For example, the Federal Highway Administration (FHWA), regulates highway routing of hazardous materials and highway safety permits; the United States Coast Guard, regulates functions for hazardous material include bulk transport by vessel; the Federal Railroad Administration (FRA); and the Federal Aviation Administration (FRR).

In addition, according to the Hazardous Material Transportation Act, regulations apply to any person who transports, causes to be transported, or ships a hazardous material.[11] This act does not exempt anyone who

[10] DOD Website.

[11] HMTA.

manufactures, fabricates, marks, maintains, reconditions, repairs, or tests a package or container that is represented, marked, certified, or sold by such person for use in the commercial transportation of certain hazardous materials.

We focus on DOD transportation policy on transporting via highway. DOD contracts carriers for the transportation of their hazardous material to naval installations. These carriers are required to have valid license to haul hazardous materials. The license or registration certificates are registered with United States Department of Transportation authorizing them to transport hazardous material. These certificates are issued a DOT hazardous material registration number. The carrier displays the DOT number on their shipping documents being carried. The registration certificates assists DOD and state and local law enforcement in determining whether a carrier's license is valid.

F. PENALTIES

A person who knowingly violates the Federal HAZMAT Transportation Law is liable to the United States Government for a civil penalty, which can range from $250 to $27,500 per incident and per day.[12] This penalty is applied when a person acts knowingly commits the violation or when a reasonable person exercising reasonable care under the circumstances would have that knowledge.

If violators are found criminally liable, their criminal penalty for the intent to harm is up to five years

[12] 49 CFR.

in prison and a fine of $250,000 to $500,000.[13] The certifying personnel are personally liable for the fines. For the Navy, these are Commanding Officers and department heads afloat. A list of offenses and fines are contained in the 49 CFR.

G. ENFORCEMENT OF REGULATIONS

The Research and Special Programs Administration (RSPA) issues Hazardous Material Regulations (HMR). RSPA also issues procedural and registration regulations. Its functions include: issuing rules and regulations governing the safe transportation of Hazardous Material; issuing, renewing, modifying, and terminating exemptions; issuing, modifying, and terminating approvals for specific activities; and receiving and maintaining important records.[14]

H. REPORTING

The Secretary of Transportation has designated a toll-free telephone number that transporters of hazardous material and other individuals can use to report possible violations of CFR 49 or any order or regulation under the Federal law. In addition, State and local governments have their violation-reporting systems.

I. CHAPTER SUMMARY

DOD incorporates many policies in their instructions pertaining to the transportation of hazardous material. The numerous laws and regulations that must be followed and stiff personal penalties for violations are abundant and sometimes hard to follow. However, we must ensure that the

[13] 49 CFR.

[14] DOT Website.

framework constructed from manufacturers, suppliers, and DOD is adequate for base security.

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IV. SUMMARY OF THE FRAMEWORK CRITERIA

We looked at the different polices that manufactures, suppliers, and Department of Defense follow to assist in the safe transport of hazardous material from its origin to its final destination. From these polices we construct a framework criteria that may be implemented by all involved in transporting hazardous material. The framework consists of four main areas: definitions of hazardous material and its priorities; personnel; material identification and tracking; and security during physical movement.

A. DEFINITION OF HAZARDOUS MATERIAL

Hazardous materials are substances that may pose an unreasonable risk to health and safety or property. Including in these categories are explosives, radioactive material, etiologic agent, flammable or combustible liquid or solid, poison, oxidizing or corrosive material, and compressed gas.

B. PERSONNEL

1. Pre-Employment Screening

Background checks should be conducted for personnel that are employed for handling or transporting hazardous material.

2. License for Transporting

All personnel transporting hazardous material should have registered license with the DOT authorizing their transport of hazardous material. Plus, the licenses should be registered with the state it’s being transported in.

3. Training

Personnel working with hazardous material should have a minimum training in hazardous material operations. For example, they should know the proper handling procedures and what precautions to take in case have a spill or leak.

C. MATERIAL IDENTIFICATION AND TRACKING

1. Labeling and Packaging

Hazardous material should be properly containerized or packaged prior to transportation to prevent leakage or spillage to the environment.

2. Accountability

Hazardous material containers or packaging should have the proper shipping name and identification number displayed on them. Technical names should be in parentheses in association with the proper shipping name. In addition, consignee’s or consignor’s name and address should be on the hazardous material if the shipment transfers from more than one carrier to its delivery point.

3. Tracking

Hazardous material requires shipping documentation for tracking purposes. Shipping documentation require the description of the hazardous material being carrier and its quantities. Plus, carriers are required to display placards of the hazardous being transported. Transporters are to have their register certificates authorizing them to transport hazardous material.

D. PHYSICAL MOVEMENT

1. Transportation Planning

When transporting hazardous material safety routes must be taken in account during planning. There should be main and alternative routes to a carrier’s delivery point.

2. En Route Communication

Transporters should have communications with their base office during transit.

3. Communication with Public Safety Agencies.

Carriers should have communications or telephone numbers of emergency personnel in case of an accident or mishap at while in transit.

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V. NAVAL STATION LEMOORE, CALIFORNIA

A. OVERVIEW

Naval Station LeMoore hazardous material and waste operations responsibilities are divided between base Supply department, Public Works Environmental Management Division (EMD), Defense Reutilization and Marketing Office, and base security. The Supply department handles the incoming hazardous material from initial procurement to storage and the distribution to the base squadrons. In addition, they ensure manufacturers and suppliers properly label hazardous material and provide material safety data sheets prior to shipment. Also, monitor squadron's usage and ensure the maximum three-day limit is not exceeded. Once the hazardous material becomes hazardous waste EMD hazardous waste office assist in the collection of the waste. EMD prepares the waste for transportation to DRMO. DROM collects the waste from EMD and utilizes a contractor for disposal.[15]

These office works together to ensure a safe environment is maintain from hazardous materials and waste. However, the main policy and written instructions apply ninety-five percent towards proper management of hazardous waste.

We constructed framework criteria from the manufacturers, suppliers, and DOD policies on transporting hazardous material from its initial start in the transportation pipeline to final destination. We use this framework criteria to analyze Naval Station LeMoore polices on transporting hazardous material from outside sources.

[15] NASLEMINST 5090.4B.

We look at the strengths, weaknesses, opportunities and threats for NAS LeMoore in reference to the framework constructed.

B. STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND THREATS

1. Strengths

a. Hazardous Material/Waste Management Policy

Naval Station LeMoore hazardous waste management instructions are very detailed covering all aspects once hazardous material becomes waste.

b. Better Active Duty and Civilian Relationships

Working together in support functions builds solid relations among hazardous material management offices to operate overall more efficiently. The relationships developed internal support functions should enable them to obtain increased efficiencies in many other areas of hazardous material operations.

c. Base Entrance Security Checks

NAS LeMoore gate sentry checks identification of all vehicles entering the base. This will assist in preventing unauthorized personnel entering the base.

d. Hazardous Material and Waste Storage Locations

Incoming hazardous is stored in the supple warehouse on base until distributed to squadrons for utilization. Then generated hazardous waste is collected and transported to a separate location from hazardous material. Both warehouse locations are not in the proximity of the main population buildings where majority of personnel work.

2. Weaknesses

a. En-route Written Procedures or Policy on Incoming Hazardous Material

There was no system or means for base security to check carriers of incoming hazardous material vehicles license for that authorization the transport of hazardous material. The normal gate identification checks were conducted for vehicles.

b. Alternative Routes

There were no written or alternatives routes established for transporting incoming hazardous material.

c. Hazardous Material Transportation Policy

There is no written base policy in transporting hazardous material on base during delivery from commercial carriers. For example, BOC Gas Company is a commercial that delivers to naval bases.

3. Opportunities

There is always ways for improvement in safe guarding base installations from possible terrorist attacks. However, many prevention measures that are overlooked sometimes could of prevented mass destruction. Constructing framework criteria from manufacturers, suppliers, and DOD could assist in the safe guard of base installation in areas overlooked.

4. Threats

a. Use of Shipments of Hazardous Material

The principal terrorist threat is to the population for the mass destruction and maximum loss of life.

b. En Route Hijacking

Easy targets for terrorist are terminals or warehouses where shipments are stored or transferred by small carriers.

c. Unauthorized Licenses

Obtaining fraudulent licenses to haul or transport hazardous material is a great concern by government since the September 11th tragedy.

VI. CONCLUSIONS AND RECOMMENDATIONS

A. INTRODUCTION

We conducted research to support this thesis by evaluating policies on transportation of hazardous material. We addressed the policies on transportation of hazardous material that manufacturers, suppliers, and Department of Defense utilizes. The main focus and objective of this thesis was to evaluate whether transportation policies provide adequacy for base security from threats of terrorist using hazardous material as weapons of mass destruction.

We conclude in this chapter the conclusions and recommendations for transportation policies for naval bases. These finding and recommendations come from analyzing policies on transportation of hazardous material, meetings and personnel interviews. Finally, we provide recommended areas for further study.

B. CONCLUSIONS

We have established that from overall research current policies on hazardous material transportation provide adequate security for naval bases but some inefficiencies do exist. Specific conclusions drawn from research follow.

1. Naval bases cannot overlook or relax entrance security measures on routine incoming shipments of hazardous material from GSA, DLA, or local vendors. Security personnel lack access or means to check carriers of incoming hazardous material licenses for authorization to transport these materials. Even though a truckload of bottled gases is not as dangerous as a truckload of

missiles the later can still cause great damage to any naval installation. There are very strict security policies in place for transporting missiles. However, we should treat other incoming hazardous material with highest precaution in case the shipment was hijacked while in transit.

2. In the past establishing routes for incoming hazardous material on base may have not been important but this material can become a weapon of mass destruction in the wrong hands. There is a lack of routine and emergency routing for incoming hazardous material. Routing of incoming hazardous material is most likely not high on base commander's priority list. However, many of us did not think an aircraft could become a weapon of mass destruction. Some hazardous material can be use by terrorist as a weapon of mass destruction.

3. Detailed base instructions on hazardous material management. Many naval bases have detailed instructions or procedures on security and management of hazardous material operations. Most instructions mainly focus on disposal and transportation of hazardous waste. Base instructions normally reference other instructions to follow and many times an individual does not have access to these. In addition, they are so in dept its time consuming just to find a specific subject. For example, Department of Transportation regulations on transporting hazardous material would not be on an individual's desktop.

4. Naval bases have contingency plans in place for possible terrorist attacks. Most bases have security plans and conduct routine exercises in preparation for possible

terrorist attacks. Since September 11th these security plans should take in account hazardous material as a possible weapon of mass destruction.

5. Location of on base hazardous material warehouse. In the past, military leaders may have not taken into account when establishing hazardous material centers for storage and distribution their location in proximity of potential terrorist targets and populated areas where base personnel work.

C. RECOMMENDATIONS

1. Naval bases should have access to databases in order to check commercial carriers of incoming hazardous material for authorized license to transport those materials. Department of transportation has a good system in screening applicants applying for licenses to transport hazardous material. State highway patrols can access systems to ensure the carriers are authorized to transport hazardous material. However, base security personnel have access to only picture identification and assume the carrier's licenses are valid. Security personnel should be able to access systems to randomly check carrier's licenses for validation prior to them entering bases. By having access to these databases to check carrier's licenses for authorization could prevent and deter possible terrorist attacks.

2. Bases should establish hazardous material routes and alternate routes for incoming hazardous material in case of an emergency from terrorist attacks. Establishing routes for transporting hazardous material for routine deliveries and emergencies would help deter and reduce

possible destruction of base property and personnel in case of a terrorist attack.

3. Create a desktop guide or incorporate in existing base instructions specific procedures or guidance in transporting incoming hazardous material. A base instruction or desktop guide on procedures or guidance summarizing base incoming hazardous material transportation would simplify the process. Additionally, this would clearly defined the procedures and be accessible at all times when required.

4. Base security plans should address contingency plans in case of a terrorist threat with hazardous material. Security plans that exist should cover possible terrorist attacks using hazardous material as a weapon of mass destruction. Bases should incorporate security exercises that addressed these possible threats.

5. Hazardous material delivery warehouse and storage areas location in reference to the proximity of where majority base personnel work and other possible terrorist targets should be evaluate prior to establishment. Bases should evaluate the location of where majority of their hazardous material is stored or delivery. The location should be separate from areas of possible targets that would cause mass destruction if threaten. If existing hazardous material centers are located in these areas of potential terrorist targets then relocation of these centers should be considered.

D. RECOMMENDATIONS FOR FURTHER STUDY

1. What hazardous materials would most terrorist target to project mass destruction to a base installation?

These specific materials were not analyzed but their potential destruction and cost/benefit analysis for any additional security measures would most likely clearly identify the most dangerous. Plus, whether base commanders should request or allocation more funding to increase in security measures for these types of incoming hazardous material.

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